



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

ny

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,117	09/26/2003	Hans Gerteis	224118	9238
23460	7590	07/02/2004	EXAMINER	
LEYDIG VOIT & MAYER, LTD TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601-6780			REIFSNYDER, DAVID A	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,117

Applicant(s)

GERTEIS ET AL.

Examiner

David A Reifsnnyder

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-56 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/04; 2/04; 9/03
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1; the recitation of "a pneumatic contrivance for detaching and discharging residue remaining of the solids." Is vague and indefinite as to what is meant by "residue remaining of the solids" One way to correct this problem would be to change the recitation of: "a pneumatic contrivance for detaching and discharging residue remaining of the solids." to --- a pneumatic contrivance for detaching and discharging residues of the solids remaining on the filtering medium.---

Regarding claim 30; the recitation of "the drum and lid being axially displaceable relatively to each other by means of a rotated hollow shaft or a supporting shaft telescoping to and fro therein" is vague and indefinite as to how the drum and lid are axially displaceable relatively to each other when there is not a supporting shaft inside the hollow shaft. One way to correct this problem would be to change the drum and lid being axially displaceable relatively to each other by means of a rotated hollow shaft **or** a supporting shaft telescoping to and fro therein" to the drum and lid being axially

Art Unit: 1723

displaceable relatively to each other by means of a rotated hollow shaft **and** a supporting shaft telescoping to and fro therein”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 1723

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-18 and 48-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus.

Regarding claims 1-18 and 48-56; Schiele and Flory both disclose a clothless invertible filter centrifuge and method of separating a suspension into a filtrate and solids, the filter centrifuge comprising a centrifugal drum rotatably mounted in a drum housing and having a drum wall comprising a stationary, dimensionally stable filtering medium, the drum further comprising an edge with an open end, a closed end wall, and an interior; a shaft driving the drum for rotation thereof; a lid hermetically sealing the open end of the drum at the edge thereof; a filling pipe leading into the interior of the drum, said filling pipe being disposed to feed the suspension into the interior of the drum; a drum base disposed in the interior of the drum, which drum base and the filtering medium are axially displaceable relatively to each other from a withdrawn position in order to mechanically discharge at least a portion of the solids retained by the filtering medium out of the drum, the drum base having a peripheral surface and a sealing member at said peripheral surface, which member bears sealingly against the wall of the drum adjacent the closed end wall of the drum when the drum base is in said withdrawn position.

Regarding claims 1-18 and 48-56; Schiele and Flory both fail to disclose the pneumatic contrivance for detaching and discharging residues of the solids remaining on the filtering medium.

Regarding claims 1-18 and 48-56; Titus discloses a filter centrifuge including a filtering medium and a pneumatic contrivance for detaching and discharging residues of the solids remaining on the filtering medium. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included the pneumatic contrivance as taught by Titus in the filter centrifuges of Schiele and Flory to remove any solids remaining on their filtering mediums. Furthermore, Schiele, Flory and Titus all disclose filter centrifuges that are very similar to one another.

Claims 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (5,169,525).

Regarding claims 19-25; Schiele and Flory in view of Titus suggests a filter centrifuge as discussed above but fail to suggest the instantly claimed squeeze valve surrounding their filling pipes.

Regarding claims 19-25; Gerteis (5,169,525) teaches on col. 3, lines 27-54 a squeeze valve surrounding the feed (i.e. filling) pipe of the filter centrifuge. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included a squeeze valve as taught by Gerteis (5,169,525) in the filter centrifuges as suggested by Schiele in view of Titus and Flory in order to seal the interior of their drums and keep the suspension that is feed into the interior of their drums in the interior of their drums. Furthermore, Schiele, Flory Titus and Gerteis (5,169,525) all disclose filter centrifuges that are very similar to one another.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus further in view of Gerteis (5,304,306).

Regarding claims 26-28; Schiele in view of Titus and Flory suggests a filter centrifuge as discussed above and further including wherein the drum and lid are axially displaceable relative to each other by means of their shaft which includes a rotated hollow shaft and a supporting shaft capable of being reciprocated therein. However, Schiele in view of Titus and Flory fail to suggest that their filling pipes can be rotated along with their centrifugal drum.

Regarding claims 26-28; Gerteis (5,304,306) teaches on col. 3, lines 24-46 a feed (i.e. filling) pipe being rotated with a centrifugal drum of his filter centrifuge. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have rotated the filling pipes of Schiele in view of Titus and Flory in order to maintain a good seal between their filling pipes and their drum. Furthermore, Schiele, Flory, Titus and Gerteis (5,304,306) all disclose filter centrifuges that are very similar to one another.

Claims 29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus further in view of Gerteis (5,304,306) as applied above, and further in view of Gerteis (5,286,378).

Regarding claims 29, 31 and 32; Schiele and Flory in view of Titus further in view of Gerteis (5,304,306) suggests a filter centrifuge as discussed above centrifuge but fail to suggest a screw spindle disposed on the supporting shaft and a nut engaging said screw spindle, either the screw spindle or the nut being rotatable by a motor such that

Art Unit: 1723

the supporting shaft telescopes to and fro in the hollow shaft depending on the rotational speed of the screw spindle or nut relative to a rotational speed of the hollow shaft, and regarding claims 31 and 32 also fail to suggest the instantly claimed safety device preventing the opening of the drum due to the removal of the lid when the drum is rotating at speed higher than a critical rotational speed.

Regarding claims 29, 31 and 32; Gerteis (5,286,378) teaches in claim 1, a filter centrifuge including a screw spindle disposed on the supporting shaft and a nut engaging said screw spindle, either the screw spindle or the nut being rotatable by a motor such that the supporting shaft telescopes to and fro in the hollow shaft depending on the rotational speed of the screw spindle or nut relative to a rotational speed of the hollow shaft, and Gerteis (5,286,378) also teaches in claim 1 a safety device which prevents the opening of the drum due to the removal of the lid when the drum is rotating at speed higher than a critical rotational speed. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention for Schiele and Flory in view of Titus further in view of Gerteis (5,304,306) to have included a screw spindle disposed on the supporting shaft and a nut engaging said screw spindle, either the screw spindle or the nut being rotatable by a motor such that the supporting shaft telescopes to and fro in the hollow shaft depending on the rotational speed of the screw spindle or nut relative to a rotational speed of the hollow shaft because they need some way to be able to displace their drum from their lid. Furthermore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included a safety device as taught by Gerteis (5,286, 378) in the filter

centrifuges as suggested by Schiele and Flory in view of Titus further in view of Gerteis (5,304,306) in order to prevent injury to the operators of the filter centrifuge. Lastly, Schiele, Flory, Titus, Gerteis (5,304,306) and Gerteis (5,286,378) all disclose similar filter centrifuges.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (5,286,378).

Regarding claims 30; Schiele in view of Titus and Flory in view of Titus suggests a filter centrifuge as discussed above but fail to suggest the instantly claimed safety device preventing the opening of the drum due to the removal of the lid when the drum is rotating at speed higher then a critical rotational speed.

Gerteis (5,286,378) teaches in claim 1 a filter centrifuge including a safety device which prevents the opening of the drum due to the removal of the lid when the drum is rotating at speed higher then a critical rotational speed. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included a safety device as taught by Gerteis (5,286, 378) in the filter centrifuges as suggested by Schiele in view of Titus and Flory in order to prevent injury to the operators of the filter centrifuge. Furthermore, Schiele, Flory, Titus and Gerteis (5,286,378) all disclose similar filter centrifuges.

Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (5,421,997).

Regarding claims 33-35; Schiele in view of Titus and Flory suggests a filter centrifuge as discussed above but regarding claims 33-34 fail to suggest the instantly claimed dividing wall designed as a bellows, and regarding claim 35 fail to suggest a device for monitoring the difference in pressures between the pressures prevailing on both sides of the dividing wall.

Regarding claims 33-35; Gerteis (5,421,997) teaches in claims 2 and 4 a filter centrifuge including a dividing wall designed as a bellows (i.e. claim 2) and a device for monitoring the difference in pressures between the pressures prevailing on both sides of the dividing wall (i.e. claim 4). It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included a dividing wall designed as a bellows and a device for monitoring the difference in pressures between the pressures prevailing on both sides of the dividing wall as taught by Gerteis (5,421,997) in the filter centrifuges as suggested by Schiele in view of Titus and Flory in order to better seal the interior of their drums and keep the suspension that is feed into the interior of their drums in the interior of their drums. Furthermore, Schiele, Flory, Titus and Gerteis (5,421,997) all disclose similar filter centrifuges.

Claims 36-38, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (6,314,824).

Regarding claims 36-38 46 and 47; Schiele and Flory in view of Titus suggests a filter centrifuge as discussed above including a centrifuge housing having a first

chamber being enclosed by a first housing section and a second chamber being enclosed by a second housing section.

Regarding claims 36-38, 46 and 47; Schiele and Flory in view of Titus fail to suggest the instantly claimed device for carrying out weight measurements in their suggested filter centrifuge, and fail to suggest that the first and second housing sections are mounted for turning in different directions about separate axes.

Regarding claims 36-38, 46 and 47; Gerteis (6,314,824) teaches in the abstract and fig. 1 a device for carrying out weight measurements in a filter centrifuge and first and second housing sections which are mounted for turning in different directions around separate axes. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included the device for carrying out weight measurements in a filter centrifuge as taught by Gerteis (6,314,824) in the filter centrifuges as suggested by Schiele in view of Titus and Flory in order to know how much the suspension that is introduced into the drum of the filter centrifuge weighs. Furthermore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have mounted the first and second housing sections of the filter centrifuge for turning in different direction about separate axes as taught by Gerteis (6,314,824) in the filter centrifuge as suggested by Schiele and Flory in view of Titus so that their housing sections can be turned separately relative to the drum. Lastly, Schiele, Flory, Titus and Gerteis (6,314,824) all disclose similar filter centrifuges.

Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (6,033,563).

Regarding claims 38-40; Schiele and Flory in view of Titus suggests a filter centrifuge as discussed above including a centrifuge housing having a first chamber being enclosed by a first housing section and a second chamber being enclosed by a second housing section.

Regarding claims 38-40; Schiele and Flory in view of Titus fail to suggest that the first and second housing sections are mounted for turning in different directions about separate vertical axes and that the first housing section has an annular shape and the second housing section has a cup shape.

Regarding claims 38-40; Gerteis (6,033,563) teaches in the abstract, fig. 3 and claims 2 and 3 a filter centrifuge having first and second housing sections mounted for turning in different directions about separate vertical axes and that the first housing section has an annular shape and the second housing section has a cup shape. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have mounted the first and second housing sections of the filter centrifuge for turning in different direction about separate vertical axes and that the first housing section has an annular shape and the second section has a cup shape as taught by Gerteis (6,033,563) in the filter centrifuge as suggested by Schiele and Flory in view of Titus so that their housing sections can be turned separately relative to the

drum between a closed state and an open state. Lastly, Schiele, Flory, Titus and Gerteis (6,033,563) all disclose similar filter centrifuges.

Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (5,988,398).

Regarding claims 41-43; Schiele and Flory in view of Titus suggests a filter centrifuge as discussed above but fail to suggest the instantly claimed annular gap between the drum housing and the drum in a region of a filtrate housing section and a solids housing section, the protective means for producing a stream or streams of gaseous medium in the annular gap and a gas-shuttle pipe having a shut off valve disposed between the filtrate housing section and a solids housing section.

Regarding claims 41-43; Gerteis (5,988,398) discloses in the abstract and claims 1 and 10 a filter centrifuge having an annular gap between the drum housing and the drum in a region of a filtrate housing section and a solids housing section, the protective means for producing a stream or streams of a gaseous medium in the annular gap and a gas-shuttle pipe having a shut off valve disposed between the filtrate housing section and a solids housing section. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included an annular gap between the drum housing and the drum in a region of a filtrate housing section and a solids housing section, the protective means for producing a stream or streams of gaseous medium in the annular gap and a gas-shuttle pipe having a shut off valve disposed between the filtrate housing section and a solids housing section as taught by

Art Unit: 1723

Gerteis (5,988,398) in the filter centrifuges as suggested by Schiele in view of Titus and Flory in order to better seal their filtrate housing section from their solids housing section. Furthermore, Schiele, Flory, Titus and Gerteis (5,988,398) all disclose similar filter centrifuges.

Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiele and Flory in view of Titus as applied above, and further in view of Gerteis (6,159,360).

Regarding claims 44 and 45; Schiele and Flory in view of Titus suggests a filter centrifuge as discussed above but fail to suggest the instantly claimed solids dryer.

Regarding claims 44 and 45; Gerteis (6,159,360) discloses in the abstract, a filter centrifuge including a solids dryer. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have included a solids dryer as taught by Gerteis (6,159,360) in the filter centrifuges as suggested by Schiele in view of Titus and Flory in order to better de-water and dry the separated solids. Furthermore, Schiele, Flory, Titus and Gerteis (6,159,360) all disclose similar filter centrifuges.

Prior Art


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gerteis (4,193,874) who discloses a filter centrifuge which is the English equivalent of DE 27 10 624 which the applicant discusses in his Background of the Invention section of his specification.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Reifsnyder whose telephone number is (571) 271-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda M Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David A Reifsnyder
Primary Examiner
Art Unit 1723

DAR